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(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL)**

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KRUISKAMP, Marinus, J. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). PRINS, Willem, M. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). OOSTERWAAL, Lambertus, J., M., P. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).**

(74) Agent: **COHEN, Julius, S.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).**

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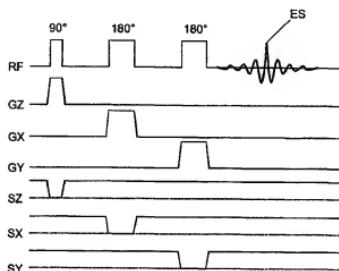
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(54) Title: **METHOD FOR SHIMMING A MAIN MAGNETIC FIELD IN MAGNETIC RESONANCE**



(57) Abstract: The invention relates to a method for shimming a main magnetic field in a magnetic resonance device. The method comprises the steps of generating at least one spatially selective radio frequency pulse (RF) for exciting nuclear spin magnetization within a restricted region of the examination volume of the magnetic resonance device, acquiring a magnetic resonance signal (ES) that is sensitive to the homogeneity of the main magnetic field, and applying electric currents (SZ, SX, SY) to a shim coil arrangement of the magnetic resonance device such that the main magnetic field is adjusted in accordance to the properties of the acquired magnetic resonance signal (ES). In order to provide a shimming method, in which it is avoided that the shape or size of the selected volume is influenced by the adjustment of the magnetic field distribution generated by the shim coils, the invention proposes that the electric currents (SZ, SX, SY) applied to the shim coil arrangement are at least partially switched off during the generation of the spatially selective radio frequency pulse (RF) and switched on during the acquisition of the magnetic resonance signal (ES).

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